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Solution and Generalized Hyers-Ulam Stability of a 2-variable Cubic Functional Equation

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Abstract

In this paper, the authors investigate the general solution and the generalized Hyers-Ulam stability of a 2-variable cubic functional equation of the form

$$f(2x+y, 2u+v) + f(2x-y, 2u-v) = 2f(x+y, u+v) + 2f(x-y, u-v) + 12f(x, u).$$